

New species of Calliphoridae (Diptera) from the Ethiopian Region.

by

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Phumosisia pretoriensis n.sp.

Related to *P. metallica* (Curran), but body darker metallic and more densely dusted. Shape of hypopygium (fig. 1) quite different, resembling that of *P. pseudolucilia* (Villeneuve).

Male: Head densely pollinose, eyes bare, upper facets slightly enlarged, frontal stripe black, widened to the antennal groove, frons at the narrowest point measuring about $\frac{1}{13}$ th of eye-length. Ocellar triangle with two pairs of long proclinate bristles, the last pair situated just behind the paired ocelli; post-verticals short, inner vertical bristle long, the outer one wanting; parafrontalia with about ten pairs of parafrontals and a few odd, blackish setae which do not extend to the parafacialia. The ground colour of the parafrontalia is black, that of the parafacialia more or less reddish, especially near the buccae, but both are covered with a dense, silvery-yellow pollinosity. Height of bucca $\frac{3}{7}$ of eye-length, hairs and bristles black, pollinosity whitish. Peristomal bristles and vibrissae long, facial ridge in the lower third with several black setae. Basal segments of antennae yellow, the third more or less darkened, about twice as long as the second, arista with long hairs on both sides up to the tip. Palpi yellow, slightly curved and dilated apically.

Thorax dark metallic, bluish-green and bronze, covered with a relatively dense pruinosity, prostigma brown, poststigma black; $ac=2+3$, $dc=2+3$, $ia=1+3$, $ph=2$ (outer present), $h=3$, $prs=1$, $n=2$, $sa=3$, $pa=2$, scutellum with 3 long marginals and a pair of discals, 2 pst and 2 pp, $st=2:1$. Prosternum and propleuron haired, alar declivity with a few setae. Wings hyaline, veins yellow, costal spine long, r_{4+5} dorsally with setae nearly reaching $r-m$, R_5 open, squamae with brownish-yellow tinge, halteres yellow. Legs yellow, tarsi apically more or less darkened, fore-tibia with 4 ad and normally one submedian pv (right 1st tibia in holotype with 2 pv); mid-tibia with one submedian ad, pd and av as well as 2 pv; hind-tibia with 3-4 ad, 2 pd and 1 submedian av.

Abdomen coloured and pruinose like the thorax, tergites with marginal bristles and laterally also discal ones. Hypopygium with relatively stout cerci and hook-shaped paralobi (dorso-ventrally mounted on a slide).

Length: 6-7 mm.

Female: Not known.

Locality: Brits, Transvaal, 9.III.1955, 2 ♂♂ leg. Mr. H. E. Paterson. Both specimens in the collection of the South African Institute for Medical Research, Johannesburg.

***Tricyclea patersoni* n.sp.**

Characterised by the outstanding shape of the hypopygium (fig. 2) showing slender and totally fused cerci, rod-like paralobi densely beset with short spines and a very stout and broad phallosome. In my key (Zumpt, 1953), it runs down to *T. latifrons* Curran which is distinguishable by narrower palpi ($\frac{2}{3}$ of antennal width) and by the presence of a submedian av on the mid-tibia. The mesonotum in the specimens of *latifrons* before me is more broadly darkened, but it is highly questionable whether this feature will prove to be constant.

Male: Eyes with almost equal facets, broadly separated from each other, frons yellow, at the narrowest point (tip of ocellar triangle) measuring $\frac{1}{4} - \frac{1}{5}$ (in the holotype $\frac{3}{13}$) of the longest eye-diameter, slightly widened towards the vertex. Ocellar triangle yellow or more or less blackened, with one pair of long proclinate oc and several shorter bristles, one pair of short post-verticals, inner verticals long and thick, the outer ones distinguishable, but hardly longer than the adjoining postocular bristles, frontal and fronto-orbital bristles not developed. Parafrontalia and -facialia yellow, with white pruinosity, with normally 7 pairs of parafrontals and a number of blackish and yellow setae which extend as far as the upper half of the parafacialia. Remaining head, antennae and occiput orange coloured, arista brown. Third antennal segment about twice as long as the second. Facial ridge with black setae in the lower half, vibrissa and peristomal bristles long, buccae about one third as high as the eye is long, with black setae, post-buccae and occiput, except the black post-ocular bristles, with yellow hairs. Palpi slightly curved, terminally dilated, their greatest width nearly reaching that of the 3rd antennal segment.

Thorax yellow-brown, with a median, ill-defined black vitta covering the area between the ac and not reaching the scutellum, pro- and poststigma yellow. Chaetotaxy: ac = 3 + 3, dc = 2 + 4, ia = 1 + 3, ph = 2 or as in the holotype, with an additional, weakly developed outer one, h = 3, prs = 1, n = 2, sa = 3, scutellum in the holotype with 4 long marginals and 3 short ones, furthermore with one pair of discals. The short marginals are only more or less distinct in the paratypes. Pleurae with st = 1 : 1, one long and one short pp and pst each, post-alar declivity with a few pale setae, propleuron

and prosternum densely haired. Wings hyaline, veins yellow to yellow-brown, costal spine wanting, r_{4+5} dorsally with setae surpassing a little $r-m$, R_5 broadly open, thoracic squama broad, dark-yellow, halter light-yellow. Legs yellow, fore-tibia with 3 short ad and a strong submedian pv; mid-tibia with a submedian ad and 2 pd; hind-tibia with several unequally long ad and pd.

Abdomen yellow, hind-margin of tergites III and IV narrowly blackened, in the middle extended to a short triangular vitta, hind tergite with a pair of black marginal spots. Marginal bristles long, discals are present laterally and as an almost continuous row also dorsally on the last tergite.

Length: 7 mm.

Female: Not known.

Locality: Tete Pan, Zululand, 24.IV.1955, 5 ♂♂, leg. H. E. Paterson. Holo- and paratypes in the collection of the South African Institute for Medical Research, Johannesburg.

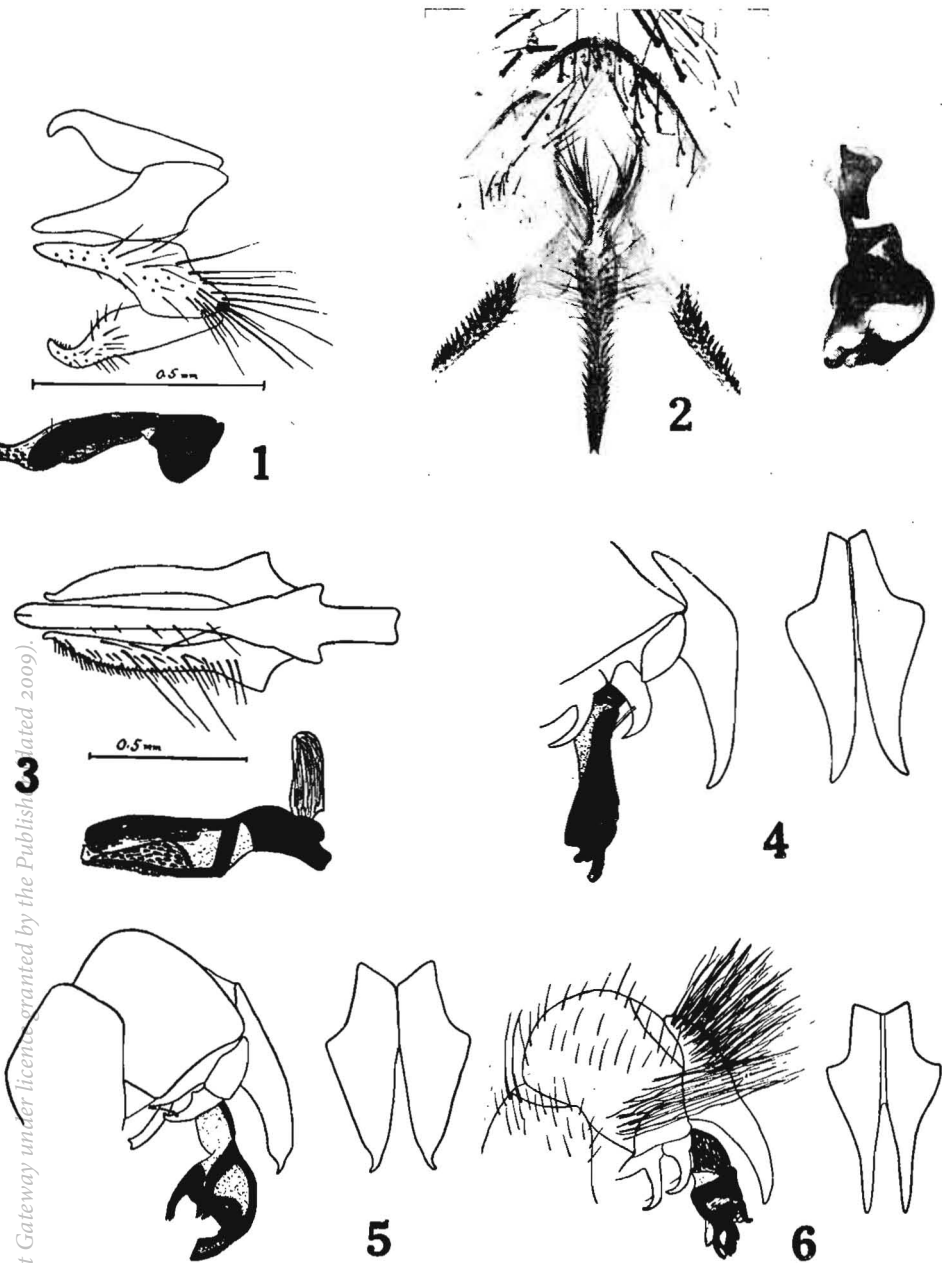
Isomyia snyderi n.sp.

In Peris' (1952) key to the genus *Thelychaeta* Brauer & Bergenstamm, 1891 (= *Isomyia* Walker, 1860), this species runs down to *natalensis* Villen., from which it is separable mainly by predominantly yellow parafacial setae which do not surpass the width of the 3rd antennal segment. Furthermore, the male frons is narrower, measuring $\frac{1}{8} - \frac{1}{10}$ of eye-length at the tip of the ocellar triangle.

Male: Eyes bare, upper and inner facets only very slightly larger than the outer ones; frontal stripe dark brown to reddish, parafrontalia darkened and densely silvery pollinose like the orange coloured parafacialia, the latter without glossy black spots. Vertex with a pair of long inner verticals and a pair of short post-verticals, ocellar triangle with a pair of long proclinate bristles in addition to several shorter ones, parafrontalia with about 10 pairs of parafrontals and several black setae which are replaced by yellow ones on the

LEGEND.

1. *Phumosia pretoriensis* n.sp.
Cerci with paralobi in frontal view, phallosome in lateral view.
2. *Tricylea patersoni* n.sp.
Microphotograph of cerci with paralobi (frontal view), phallosome in lateral view.
3. *Isomyia snyderi* n.sp.
Cerci with paralobi (frontal view) and phallosome (laterally). The densely placed hairs of the upper part of cerci are omitted.
4. *Sarcophaga freedmani* n.sp.
Lateral view of hypopygium and frontal view of cerci. Hairs are omitted.
5. *Sarcophaga evagorata* n.sp.
Lateral view of hypopygium and frontal view of cerci, hairs omitted.
6. *Sarcophaga limpopoensis* n.sp.
Lateral view of hypopygium and frontal view of cerci.



parafacialia. Face including buccae a chrome-yellow colour, only post-buccae and occiput blackened, hairs on buccae and post-buccae yellow, on the former relatively short; peristomal bristles black, vibrissa long and thick, above it, on the base of the facial ridge are a few bristles, one or two of which are strikingly long and reach $\frac{1}{4}$ to $\frac{1}{2}$ of the length of the vibrissa. Antennae chrome-yellow like the face, the 3rd segment twice as long as the second, arista with long hairs on both sides. Height of bucca about one third of eye length. Palpi dark yellow, hardly dilated apically.

Thorax bright metallic green, with bluish and bronze reflections, pruinosity white and distinct, pro- and poststigma black brown; $ac = 2 + 4 - 5$, $dc = 3 + 4 - 5$, $ia = 1 + 3$, $ph = 4$, $h = 3$ (plus additional shorter ones), $prs = 1$, $n = 2$, $sa = 4$, $pa = 2$, $sc = 3 + 1$, 2 pst and 2 pp, $st = 1 : 1$, propleuron and postalar declivity bare, prosternum haired. Wings hyaline, veins yellow-brown, but epaulet and basicosta blackish, costal spine hardly distinguishable from the surrounding ones, root of r_{4+5} dorsally with a few black setae, m with a short-rounded, obtuse angle, R_5 open, thoracic squama yellowish, about as long as broad, but the base does not reach the base of the scutellum, halter yellow. Legs with the femora black, tibiae and tarsi more reddish brown, front tibia with a row of ad and one long submedian pv; mid-tibia with 2 pd and one submedian ad and pv; hind-tibia with a submedian av, 2 pd and a row of unequally long ad.

Abdomen coloured like the thorax, pruinosity relatively dense and with silky reflections, tergites with marginal bristles; laterally, and on the last tergite also dorsally, with strong discal bristles. The hypopygium (fig. 3) is very similar to that of *I. natalensis* (Villen.).

Female: Frons at vertex $\frac{2}{5}$ as wide as the eye is long, widened to the antennal groove, frontal stripe parallel, reddish brown, at the tip of the ocellar triangle twice as broad as one parafrontalium. Chaetotaxy of head complete, with both verticals, one reclinate frontal and two big proclinate fronto-orbitals, accompanied by one or two weaker proclinate bristles and several black setae. Height of bucca $\frac{2}{5}$ of eye-length. Mid-tibia also with a submedian av and hind-tibia with 2-3 av.

Length: 10-12 mm.

Locality: Bendu nr. Robertsport, Liberia, II & III. 1943, 3 ♂♂, 3 ♀♀ leg F. M. Snyder. Holotype ♂ and 3 paratypes (1 ♂, 2 ♀♀) in the American Museum of Nat. History, New York; 1 ♂ ♀ in the collection of the South African Institute for Medical Research, Johannesburg.

***Sarcophaga freedmani* n.sp.**

Related to *S. meriani* Zpt. (*momba*-group) to which this new species runs down in my key (Zumpt, 1951). The hypopygia of both species are quite different, furthermore, the costal spine is well developed in the new species.

Male: Head silvery pollinose, frontal stripe black, nearly subparallel; frons at the narrowest point $\frac{1}{3} - \frac{1}{4}$ of eye-length parafrontals of normal

arrangement, inner vertical and frontal bristles thick, ocellar bristles thin, parafrontalium with irregularly placed setae, parafacialium with a single row of setae gradually increasing in size towards the bucca, the last 3 or 4 long. Bucca with black hairs and bristles, height $\frac{3}{7}$ of eye-length, post-bucca and occiput with pale hairs. Antennae black, 3rd segment about $2\frac{1}{2}$ times as long as the second. Palpi black.

Thorax cinerous pollinose, with three broad black-olive stripes on the notum. Prescutellar pair of ac developed, dc = 3 + 4, the post-sutural ones decreasing in size towards the suture, ia = 1 + 3, st = 1:1:1, sc = 3 + 1. Propleuron haired. Wings hyaline, veins brown, epaulet black, basicosta yellow, $cs_{1-5} = 5.5 : 2 : 4.3 : 0.4$, costal spine distinct, r_1 dorsally bare, r_{4+5} with a few setae halfway to r-m, squamae whitish, halter yellow-brown with a darkened knob. Legs black, first tibia with a submedian pv and 2-4 ad in the basal half; mid-femur terminally at the posterior edge with several short and strong spines forming a ctenidium, on the anterior edge the spines are thinner, mid-tibia with 2 long ad, 2 pd in the upper half and 1 pd beyond the middle, furthermore 1 submedian av and 1 pv; no long hairs on the inner side; hind-femur with several long av bristles, hind-tibia without long hairs on the inner edges, 2 long pd and several ad of different lengths, 1 av in the lower half.

Abdomen with chess-board pattern, no median marginal bristles on the phylogenetically 3rd segment, 5th sternite deeply emarginated, inner edges with spines. Genital segments reddish, the first without stronger marginal bristles, phallosome with a long and heavily sclerotized phallus, membranalobi wanting (fig 4).

Length: 6-10 mm.

Female: Not known.

Locality: Nr. Nata, Bechuanaland, 1 ♂ leg. Zumpt, XII. 1954. (holotype); Tete Pan, Zululand, 2 ♂ leg. Paterson, 3.V.1955 (paratypes). All specimens in the collection of the South African Institute for Medical Research, Johannesburg.

The species named in honour of Dr. M. L. Freedman, Director of Medical Services of the Bechuanaland Protectorate, who organised a survey of arthropods of medical and veterinary importance by the entomological department of the S.A.I.M.R..

***Sarcophaga evagorata* n.sp.**

Belonging to the *selene*-group (cf. Zumpt, 1951) and, owing to the absence of long hairs of the hind tibia, related to *S. zumpti* Engel from which it is easily separable by the reddish genital segments and the totally different structure of the hypopygium.

Male: Head silvery pollinose, frontal stripe black, distinctly widened to the antennal groove and here about twice as broad as at the tip of the ocellar triangle: frons at the narrowest point measuring about $\frac{2}{7}$ of eye-length;

parafrontals almost reaching the hind margin of the 2nd antennal segment, the last 3 pairs placed in diverging rows, inner vertical and frontal bristles long, ocellars shorter, outer verticals only slightly longer than the adjoining postocular bristles: parafrontalia and -facialia with a row of black setae, in the holotype the last two, in the paratype the last four, bristle-like. Buccae with height about $\frac{3}{7}$ of eye-length and with black hairs and bristles, occiput with white hairs. Antennae black, 3rd segment about twice as long as the second. Palpi black.

Thorax cinerous pollinose, with three broad black-olive stripes on the notum. Prescutellar pair of ac well developed, $dc = 3 + 3$, the postsutural ones all long, but nevertheless distinctly decreasing in size towards the suture, only the last two ia long and thick, the first postsutural and the presutural ones indistinct, $st = 1 : 1 : 1$, $sc = 4 + 1$ in the holotype, $3 + 1$ in the paratype. Propleuron bare. Wings hyaline, veins brown, epaulet black, basicosta yellow, $cs_1 - 5 = 5 : 1.7 : 4.2 : 1.7 : 0.4$, costal spine long, r_1 in the basal half with a row of thick bristles; r_{4+5} with bristles nearly reaching r-m, squamae whitish, halter yellow-brown. Legs black, first tibia with a submedian pv and 2-3 ad in the basal half; mid-femur without ctenidium, but in the terminal half on both edges with a row of densely placed bristles, mid-tibia with 2 long ad, 2 shorter pd and one submedian av and pv, no long hairs on the inner side: hind-femur with several long av bristles, hind-tibia without long hairs on the inner edges, one long and 1-2 shorter av, 2 long pd and several unequally long ad.

Abdomen with chess-board pattern, the phylogenetically 3rd segment with a pair of long and erect median marginals, 5th sternite deeply emarginated, inner edges with spines. Genital segments reddish, the first without stronger marginal bristles, phallosome with a relatively weakly, only posteriorly sclerotized theca, phallus of complicated structure (fig 5).

Length: 9-10 mm.

Female: Not known.

Locality: White River, Transvaal, 6.III.1953, 1♂ leg. H. E. Paterson (holotype); Pinetown, Natal, 1♂ leg. H. E. Paterson, 8.III.1954 (paratype). Both specimens in the collection of the South African Institute for Medical Research, Johannesburg.

Sarcophaga limpopoensis n.sp.

In my key to the Ethiopian *Sarcophaga* species (Zumpt, 1951), this species runs down to *S. momba* Curran and *S. alina* Curran, from which it is easily separable by the structure of the hypopygium. I cannot say whether there are other features which would enable these species to be recognised because I have not seen *S. alina* up to now, and only very few badly preserved specimens of *S. momba*.

Male: Head silvery pollinose, frontal stripe black, distinctly widened to the antennal groove and here about twice as broad as at the tip of the ocellar

triangle; frons at the narrowest point measuring about $\frac{1}{3}$ of eye-length; parafrontals almost reaching the hind margin of the 2nd antennal segment, the last three pairs of bristles placed in diverging rows, inner vertical, ocellar and frontal bristles long; outer verticals only a little longer than the adjoining postocular bristles; parafrontalia and -facialia with relatively long sparse hairs which are not restricted to one row. Buccae with height $\frac{3}{8}$ of eye-length, densely beset with black hairs, central part of occiput with long yellowish hairs. Antennae deep black like the remaining part of the face, 3rd segment slender, about $3-3\frac{1}{2}$ times as long as the second, arista with long hairs, palpi black, slightly curved, slender, only a little widened terminally.

Thorax cinerous pollinose, with three broad black-olive stripes on the notum. Prescutellar pair of ac only poorly developed, short and thin, dc = 3 + 4 — 5, the postsutural ones decreasing in size and the first pair near the suture very short and more or less indistinct, ia = 1 + 3, st = 1 : 1 : 1, sc = 3 + 1. Propleuron with distinct hairs. Wings hyaline, veins black-brown. epaulet black, but basicosta and the adjoining basal part of costa yellow, $cs_{1-5} = 5 : 2 : 4 : 1.6 : 0.3$, costal spine very short, quite indistinct, r_1 bare, r_{4+5} with bristles halfway to $\frac{3}{4}$ up to r-m, squamae whitish, halter yellow-brown basally, darkened towards the knob. Legs black, first tibia with a submedian pv and 2-3 ad in the basal half; mid-femur without ctenidium, mid-tibia without long hairs, 2 pd and one submedian pv, ad and av; hind-femur with a few av, hind-tibia on both inner edges with hairs which are longer than the tibial diameter, one submedian av, 2 long pd and several ad of different lengths.

Abdomen with normal chess-board pattern, 2nd visible segment (phylogenetically the 3rd) with a pair of long erect median marginals, 5th sternite with a shallow emargination, inner edge with spines. Genital segments reddish, the 1st at least with four stronger bristly hairs at the hind margin, the 2nd with long lateral hairs, cerci with a brush of hairs on the upper half, phallosome with stout theca and harpesbasis, juxta with haired process, harpes denticulated (fig. 6).

Length: 9-11 mm.

Female: Not known.

Locality: Bilene, Mozambique, 26.III.1954, 9 ♂ ♂ leg. Dr. J. T. Santos Dias. Holotype and 4 paratypes in the collection of the South African Institute for Medical Research, Johannesburg, 4 paratypes returned to Dr. Dias.

References

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